

## Warren Buffet on Derivatives

Following are edited excerpts from the Berkshire Hathaway annual report for 2002.

I view derivatives as time bombs, both for the parties that deal in them and the economic system. Basically these instruments call for money to change hands at some future date, with the amount to be determined by one or more reference items, such as interest rates, stock prices, or currency values. For example, if you are either long or short an S&P 500 futures contract, you are a party to a very simple derivatives transaction, with your gain or loss derived from movements in the index. Derivatives contracts are of varying duration, running sometimes to 20 or more years, and their value is often tied to several variables.

Unless derivatives contracts are collateralized or guaranteed, their ultimate value also depends on the creditworthiness of the counter-parties to them. But before a contract is settled, the counter-parties record profits and losses – often huge in amount – in their current earnings statements without so much as a penny changing hands. Reported earnings on derivatives are often wildly overstated. That's because today's earnings are in a significant way based on estimates whose inaccuracy may not be exposed for many years.

The errors usually reflect the human tendency to take an optimistic view of one's commitments. But the parties to derivatives also have enormous incentives to cheat in accounting for them. Those who trade derivatives are usually paid, in whole or part, on "earnings" calculated by mark-to-market accounting. But often there is no real market, and "mark-to-model" is utilized. This substitution can bring on large-scale mischief. As a general rule, contracts involving multiple reference items and distant settlement dates increase the opportunities for counter-parties to use fanciful assumptions. The two parties to the contract might well use differing models allowing both to show substantial profits for many years. In extreme cases, mark-to-model degenerates into what I would call mark-to-myth.

I can assure you that the marking errors in the derivatives business have not been symmetrical. Almost invariably, they have favored either the trader who was eyeing a multi-million dollar bonus or the CEO who wanted to report impressive "earnings" (or both). The bonuses were paid, and the CEO profited from his options. Only much later did shareholders learn that the reported earnings were a sham.

Another problem about derivatives is that they can exacerbate trouble that a corporation has run into for completely unrelated reasons. This pile-on effect occurs because many derivatives contracts require that a company suffering a credit downgrade immediately supply collateral to counter-parties. Imagine then that a company is downgraded because of general adversity and that its derivatives instantly kick in with their requirement, imposing an unexpected and enormous demand for cash collateral on the company. The need to meet this demand can then throw the company into a liquidity crisis that may, in some cases, trigger still more downgrades. It all becomes a spiral that can lead to a corporate meltdown.

Derivatives also create a daisy-chain risk that is akin to the risk run by insurers or reinsurers that lay off much of their business with others. In both cases, huge receivables from many counter-parties tend to build up over time. A participant may see himself as prudent, believing his large credit exposures to be diversified and therefore not dangerous. However under certain circumstances, an exogenous event that causes the receivable from Company A to go bad will also affect those from Companies B through Z.

In banking, the recognition of a "linkage" problem was one of the reasons for the formation of the Federal Reserve System. Before the Fed was established, the failure of weak banks would sometimes put sudden and unanticipated liquidity demands on previously-strong banks, causing them to fail in turn. The Fed now insulates the strong from the troubles of the weak. But there is no central bank assigned to the job of preventing the dominoes toppling in insurance or derivatives. In these industries, firms that are fundamentally solid can become troubled simply because of the travails of other firms further down the chain.

Many people argue that derivatives reduce systemic problems, in that participants who can't bear certain risks are able to transfer them to stronger hands. These people believe that derivatives act to stabilize the economy, facilitate trade, and eliminate bumps for individual participants.

On a micro level, what they say is often true. I believe, however, that the macro picture is dangerous and getting more so. Large amounts of risk, particularly credit risk, have become concentrated in the hands of relatively few derivatives dealers, who in addition trade extensively with one other. The troubles of one could quickly infect the others.

On top of that, these dealers are owed huge amounts by non-dealer counter-parties. Some of these counter-parties, are linked in ways that could cause them to run into a problem because of a single event, such as the implosion of the telecom industry. Linkage, when it suddenly surfaces, can trigger serious systemic problems.

Indeed, in 1998, the leveraged and derivatives-heavy activities of a single hedge fund, Long-Term Capital Management, caused the Federal Reserve anxieties so severe that it hastily orchestrated a rescue effort. In later Congressional testimony, Fed officials acknowledged that, had they not intervened, the outstanding trades of LTCM – a firm unknown to the general public and employing only a few hundred people – could well have posed a serious threat to the stability of American markets. In other words, the Fed acted because its leaders were fearful of what might have happened to other financial institutions had the LTCM domino toppled. And this affair, though it paralyzed many parts of the fixed-income market for weeks, was far from a worst-case scenario.

One of the derivatives instruments that LTCM used was total-return swaps, contracts that facilitate 100% leverage in various markets, including stocks. For example, Party A to a contract, usually a bank, puts up all of the money for the purchase of a stock while Party B, without putting up any capital, agrees that at a future date it will receive any gain or pay any loss that the bank realizes.

Total-return swaps of this type make a joke of margin requirements. Beyond that, other types of derivatives severely curtail the ability of regulators to curb leverage and generally get their arms around the risk profiles of banks, insurers and other financial institutions. Similarly, even experienced investors and analysts encounter major problems in analyzing the financial condition of firms that are heavily involved with derivatives contracts.

The derivatives genie is now well out of the bottle, and these instruments will almost certainly multiply in variety and number until some event makes their toxicity clear. Central banks and governments have so far found no effective way to control, or even monitor, the risks posed by these contracts. In my view, derivatives are financial weapons of mass destruction, carrying dangers that, while now latent, are potentially lethal.